

25



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/722,700	11/28/2000	Masatsugu Hirayama	016907/1182	4555
22428	7590	07/01/2004	EXAMINER	
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			CARTER, TIA A	
			ART UNIT	PAPER NUMBER
			2626	8

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/722,700

Applicant(s)

HIRAYAMA, MASATSUGU

Examiner

Tia A Carter

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 3-9 is/are rejected.
- 7) ☒ Claim(s) 1 and 2 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 1-2 are objected to because of the following informalities: Claims 1-2 is method claims, which are not written in method form. A clear and concise form of method claims 1-2 is required. Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawada et al. (US. 6721062) in view of Munemori et al. (US. 6029023)

Regarding claim 3, Sawada et al. discloses an image forming apparatus comprising:

A scanner (color scanner -1) to read an image on an original and generate image signals (Fig. 2, col. 5, lines 1-2),

A conversion unit (converting section-58) to convert the image signals generated by the scanner to color signals (fig. 2, col. 5, lines 4-7);

A memory to prestore correcting tables of respective colors including black and error correction table of a monochrome black, the error correction table being formed from the correction table of black included in the correcting tables of the respective colors (Fig. 2, col. 5, lines -11; fig. 3, col. 5, lines 31-46);

Sawada et al. **do not disclose** an operation panel to set a type of the original read by the scanner and specifying whether the original is a full-color mode or monochrome black modes.

Munemori et al. **disclose** an operation panel (30) to set a type of the original read by the scanner and specifying whether the original is a full-color mode or a monochrome black modes (fig. 6, col. 7, lines 45-55).

Sawada et al. **do not disclose** a first correction unit to correct, when the operation panel has set the full color mode, the color signals converted by the conversion unit.

Munemori et al. **discloses** first correction unit to correct, when the operation panel has set the full color mode, the color signals converted by the conversion unit (figs. 14-15, col. 11, lines 56-58; col. 12, lines 23-55), Sawada et al. **discloses** using the correction tables of the respective colors including black stored in memory (fig. 3, col. 5, lines 33-35),

Sawada et al. **do not disclose** a second correction unit to correct, when the operation panel has set the monochrome black mode, the color signals converted by the conversion unit.

Munemori et al. **discloses** a second correction unit to correct, when the operation panel has set the mono-color black mode, the color signals converted by the conversion unit (figs. 14-15, col. 11, lines 56-58; col. 12, lines 23-55), Sawada et al. **discloses** using the correction tables of the respective colors including black stored in memory, and further correct the color signals using error correction table of the mono-color black stored in the memory (fig. 3, col. 5, lines 33-35).

An image-forming unit to form an image based on the color signals corrected by the first or second correction unit (fig. 2, col. 5, lines 4-15).

It would have been obvious to one skilled in the art at the time of the invention to modify Sawada et al. with Munemori et al. wherein an operational panel fully capable of setting modes would be implemented to assist with color conversion based upon the mode selected whereas a correction table would store and adjust the black data generated.

Regarding claim 4, Sawada et al. discloses an image forming apparatus according to claim 3, wherein the image signals generated by the scanner are red, green and blue signals (Fig. 2, col. 5, lines 4-7).

Regarding claim 5, Sawada et al. discloses an image forming apparatus according to claim 3, wherein the color signals converted by the conversion unit are cyan, magenta and yellow (Fig. 2, col. 5, lines 4-7).

Regarding claim 6, Sawada et al. discloses an image forming apparatus according to claim 3, wherein the colors signal corrected by the first correction unit are magenta, cyan, and yellow of the color signals converted by the conversion unit, and black generated from these color signals (fig. 2, col. 5, lines 5-11).

3. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sawada et al. (US. 6721062) in view of Munemori et al. (US. 6029023) and Sakamoto (US. 5045931)

Regarding claim 7, Sawada et al. discloses an image forming apparatus (fig. 1, col. 4, lines 41-45) comprising:

Read means for reading an image on a n original (fig. 2, col. 4, line 67 and col. 5, lines 1-2);

Conversion means for converting image signals read by the read means to color signals (Fig. 2, col. 5, lines 4-7);

memory means for prestoring correction tables of colors formed at predetermined screen angles for the colors including a first black, and a correction table of a second black (figs. 3-4, col. 5, lines 30-67; col. 6, lines 1-2).

Sawada et al. **does not disclose** of colors formed at predetermined screen angles for the colors including a first black, and a second black formed at a screen angle different from the screen angle of the first black in the correction tables of the respective colors;

Sakamoto **discloses** of colors formed at predetermined screen angles for the colors including a first black, and a second black formed at a screen angle different from the screen angle of the first black in the correction tables of the respective colors (figs. 1B&2A-B, col. 3, lines 21-36 and lines 55-63; figs. 5a-b & 6a-b, col. 4, lines 44-61);

Sawada et al. **do not discloses** setting means for setting a type of the original read by the read means and specifying whether the original is of a full color mode or monochrome black mode.

Munemori et al. **discloses** setting means for setting a type of the original read by the read means and specifying whether the original is of a full color mode or monochrome black mode (fig. 6, col. 7, lines 37-55).

It would have been obvious to one skilled in the art at the time of the invention to modify Sawada et al. with Sakamoto wherein the color signal black takes on two different screen angle values for providing a precise output color considering a more saturated black or a more grayish black is achievable with half toning in color printing. Because black can take on more color output values it is necessary to adjust the blacks based upon the user's desire color output. Also, it is obvious to modify Sawada with Munemori et al. wherein an operational panel allows a user to determine the mode wanted so the color correction and adjustments is based upon the specific color mode selected.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sawada et al. (US. 6721062) in view of Troxel (US. 5124803).

Regarding claim 8, Sawada et al. discloses a correction table forming method for forming correction tables used in a color image forming apparatus having a color printer:

Reading out prestored correction data corresponding to a plural colors (fig. 2, col. 5, lines 2-11);

Sawada et al. **does not disclose** generating color signals at a predetermined screen angles for the respective colors including black by using correction data corresponding to the plural colors;

Troxel **discloses** generating color signals at a predetermined screen angles (col. 6, lines 37-41) for the respective colors including black by using correction data corresponding to the plural colors (figs. 2-3, col. 6, lines 2-50);

Print out screen patterns for the respective colors by the color printer of the color image forming apparatus based on the color signals (fig. 4, col. 5, lines 63-67; col. 6, lines 1-2 and lines 14-19); and

Forming correction tables by using the screen patterns for the respective colors (fig. 5, col. 7, lines 1-5).

It would have been obvious to one skilled in the art at the time of the invention to modify Sawada et al. with Troxel wherein the screen angles are previously stored and generated for further comparison to adjust the data based on the screen angle value to reduce moiré effects.

Art Unit: 2626

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sawad et al. (US. 6721062) in view of Sakamoto (US. 5045931).

Regarding claim 9, Sawada et al. discloses a correction table forming method for forming correction tables used in a color image forming apparatus having a color printer:

Reading out prestored correction data corresponding to a plural colors (fig. 2, col. 5, lines 2-11);

Sawada et al. **do not disclose** generating color signals including a first black, and a second black at predetermined screen angles for the respective colors including a screen angle for the first black and a screen angle for the second black, which differs from the screen angle for the first black by using the correction data corresponding to the plural colors;

Sakamoto **discloses** generating color signals including a first black, and a second black at predetermined screen angles for the respective colors including a screen angle for the first black and a screen angle for the second black, which differs from the screen angle for the first black by using the correction data corresponding to the plural colors (figs. 1B&2A-B, col. 3, lines 21-36 and lines 55-63; figs. 5a-b & 6a-b, col. 4, lines 44-61);

Print out screen patterns for the respective colors by the color printer of the color image forming apparatus based on the color signals (fig. 4, col. 5, lines 63-67; col. 6, lines 1-2 and lines 14-19); and

Forming correction tables by using the screen patterns for the respective colors (fig. 5, col. 7, lines 1-5).

It would have been obvious to one skilled in the art at the time of the invention to modify Sawada et al. with Sakamoto et al. wherein the color signal black takes on two different screen angle values for providing a precise output color considering a more saturated black or a more grayish black is achievable with half toning in color printing. Because black can take on more color output values it is necessary to adjust the blacks based upon the user's desire color output.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Surbrook (US. 5166809), Fukushima (US. 6121997), and Seki et al. (US. 5101283) are cited to show related art with respect to color image adjustment via screen angle.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tia A Carter whose telephone number is 703 - 306-5433. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A Williams can be reached on 703-305-4863. The fax phone

Art Unit: 2626

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



TAC
June 16, 2004

Tia A Carter
Examiner
Art Unit 2626



MADELEINE NGUYEN
PATENT EXAMINER